

RESPONSE TO RESTRICTION REQUIREMENT

Serial Number: 10/749,133

Filing Date: December 30, 2003

Title: A HEARING AID HAVING A SUPPLY SOURCE PROVIDING MULTIPLE SUPPLY VOLTAGES

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IN THE CLAIMS

1. (Previously Presented) The hearing aid of claim 3, wherein the common substrate is an insulating alumina substrate.
2. (Previously Presented) The hearing aid of claim 7, wherein the single supply source is a battery having multiple voltage taps.
3. (Previously Presented) The hearing aid of claim 2, wherein the battery includes a common substrate on which a plurality of battery regions are disposed, each battery region providing a supply voltage, the supply voltage of at least one battery region at a rated voltage level different from another battery region of the plurality of battery regions.
4. (Withdrawn) The hearing aid of claim 3, wherein the common substrate is a rigid ceramic platform substrate.
5. (Previously Presented) The hearing aid of claim 3, wherein the common substrate is a flexible platform in a folded configuration.
6. (Previously Presented) The hearing aid of claim 3, wherein the common substrate is a flexible platform in a rolled configuration.
7. (Previously Presented) A hearing aid comprising:
 - a plurality of electronic devices, each electronic device configured to operate under a different supply voltage;
 - a single supply source having multiple voltage taps to provide the different supply voltages without up-converting a voltage level or down-converting a voltage level; and
 - a housing containing the plurality of electronic devices and the single supply source, the housing structured to mount in or about an ear of a person.

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8. (Previously Presented) The hearing aid of claim 7, wherein the hearing aid further includes a battery management unit having circuitry to monitor the voltage level of each battery region.

9. (Previously Presented) The hearing aid of claim 8, wherein the battery management unit includes circuitry to output an audible notice when the voltage level of a battery region reaches a minimum operational level.

10. (Previously Presented) The hearing aid of claim 7, wherein the battery includes three battery regions on a common substrate.

11. (Previously Presented) The hearing aid of claim 7, wherein the battery includes a 1.3V tap, a 2.6V tap, and a 3.8V tap.

12. (Previously Presented) The hearing aid of claim 7, wherein the hearing aid further includes a battery recharge control.

13. (Previously Presented) The hearing aid of claim 12, wherein the battery recharge control includes a switching circuit to independently couple a voltage tap to a recharge circuit.

14. (Previously Presented) The hearing aid of claim 12, wherein the battery recharge control includes a number of voltage regulators to limit the voltage recharge to a voltage at or below a selected recharge voltage level.

15. (Previously Presented) The hearing aid of claim 7, wherein the hearing aid includes a switching network to selectively switch an electronic device of the plurality of electronic devices to any voltage tap of the multiple voltage taps.

16. (Previously Presented) The hearing aid of claim 7, wherein the hearing aid includes:
 - a microphone;
 - a signal processor; and
 - an amplifier, wherein each of the microphone, the signal processor, and the amplifier are powered by a different voltage tap of the battery.
17. (Previously Presented) The hearing aid of claim 7, wherein the hearing aid further includes one or more regulators, each regulator associated with a different voltage tap of the battery.
18. (Previously Presented) The hearing aid of claim 7, wherein the hearing aid further includes a wireless link that operates with a supply voltage greater than 1.3V.
19. (Previously Presented) A hearing aid comprising:
 - a plurality of electronic devices, each electronic device configured to operate under a different supply voltage;
 - a battery to provide the different supply voltages without up-converting a voltage level or down-converting a voltage level; and
 - a housing containing the plurality of electronic devices and the single supply source, the housing structured to mount in or about an ear of a person, wherein the battery includes:
 - a substrate;
 - a plurality of battery regions disposed on the substrate, each battery region to provide a different supply voltage;
 - a plurality of buffer regions, one or more buffer regions separating each battery region; and
 - a plurality of voltage taps, wherein each battery region has a voltage tap.
20. (Previously Presented) The hearing aid of claim 19, wherein the substrate is a rigid platform.

21. (Previously Presented) The hearing aid of claim 19, wherein the substrate is a flexible platform such that the battery has a folded configuration.
22. (Previously Presented) The hearing aid of claim 19, wherein the substrate is a flexible platform such that the battery has a rolled configuration.
23. (Previously Presented) The hearing aid of claim 19, whercin the number of battery regions is three.
24. (Previously Presented) The hearing aid of claim 19, wherein the battery includes a 1.3V supply voltage, a 2.6V supply voltage, and a 3.8V supply voltage.
25. (Previously Presented) The hearing aid of claim 19, further including a reference contact common to each battery region.
26. (Previously Presented) The hearing aid of claim 19, further including a number of reference contacts, each reference contact coupled to a different battery region.
27. (Previously Presented) The hearing aid of claim 19, wherein one or more of the battery regions are rechargeable.
28. (Previously Presented) A method of manufacturing a hearing aid comprising:
mounting a number of electronic devices into a housing of a hearing aid, the housing structured to mount in or about an ear of a person, each electronic device configured to operate under a different supply voltage; and
providing the hearing aid with a single supply source to provide the different supply voltages without up-converting a voltage level or down-converting a voltage level.
29. (Original) The method of claim 28, wherein providing the hearing aid with a single

supply source includes providing the hearing aid with a battery having multiple voltage taps.

30. (Previously Presented) The method of claim 29, wherein providing the hearing aid with a battery having multiple voltage taps includes providing the battery having a common substrate on which a plurality of battery regions are disposed, each battery region providing a supply voltage, the supply voltage of at least one battery region at a rated voltage level different from another battery region of the plurality of battery regions.

31. (Original) The method of claim 30, wherein providing a battery having a common substrate includes providing the battery with the common substrate formed as a rigid platform.

32. (Original) The method of claim 30, wherein providing a battery having a common substrate includes providing the battery with the common substrate formed as a flexible platform in a folded configuration.

33. (Original) The method of claim 30, wherein providing a battery having a common substrate includes providing the battery with the common substrate formed as a flexible platform in a rolled configuration.

34. (Original) The method of claim 29, wherein the method further includes providing a wireless link that operates with a supply voltage greater than 1.3V.